Tilapia nyongana
Ecological Risk Screening Summary

U.S. Fish and Wildlife Service, June 2015

Photo not available.

1 Native Range, and Status in the United States

Native Range
From Froese and Pauly (2015):

"Africa: Dja (middle Congo River basin), Nyong and Ntem in Cameroon, and Komo and Ogooué in Gabon [Stiassny et al. 2008]."

Status in the United States
This species has not been reported in the U.S.

Means of Introductions in the United States
This species has not been reported in the U.S.

2 Biology and Ecology

Taxonomic Hierarchy and Taxonomic Standing
From ITIS (2015):

"Kingdom Animalia
Subkingdom Bilateria
Infrakingdom Deuterostomia
Phylum Chordata
Subphylum Vertebrata
Infraphylum Gnathostomata
Superclass Osteichthyes
Class Actinopterygii
Subclass Neopterygii
Infraclass Teleostei
Superorder Acanthopterygii
Order Perciformes
Suborder Labroidei
Family Cichlidae
Genus Tilapia
Species *Tilapia nyongana* Thys van den Audenaerde, 1971"

"Taxonomic Status: valid"

Size, Weight, and Age Range

From Froese and Pauly (2015):

"Max length : 21.0 cm TL male/unsexed; [Teugels and Thys van den Audenaerde 1991]"

Environment

From Froese and Pauly (2015):

"Freshwater; benthopelagic."

Climate/Range

From Froese and Pauly (2015):

"Tropical; 24°C - 26°C [Baensch and Riehl 1995]; 3°N - 5°S"

Distribution Outside the United States

Native

From Froese and Pauly (2015):

"Africa: Dja (middle Congo River basin), Nyong and Ntem in Cameroon, and Komo and Ogooué in Gabon [Stiassny et al. 2008]."

Introduced

No introductions of this species have been reported.

Means of Introduction Outside the United States

No introductions of this species have been reported.

Short description

From Froese and Pauly (2015):

"Dorsal spines (total): 14 - 15; Dorsal soft rays (total): 11-12; Anal spines: 3; Anal soft rays: 8 - 9. Diagnosis: 10 or fewer rakers on lower limb of first arch; unpaired fins not predominantly red-brown; mouth terminal; 29-30 lateral line scales; outer row teeth robust; dorsal fin with 14-15 spines and 11-12 soft rays (total rays 26-27); anal fin with 3 spines and 8-9 soft rays; caudal fin weakly covered with scales; vertical stripes strongly pronounced, only slightly enlarged on flanks; a black spot at base of each scale; clear spots on occiput and opercle; belly whitish [Stiassny et al. 2008]."

Biology
From Froese and Pauly (2015):

"Substrate brooder [Stiassny et al. 2008]."

Human uses
From Moelants (2010):

"This species is harvested for human consumption."

Diseases
From Bilong-Bilong et al. (1996):

"Ancyrocephalid monogeneans collected in Cameroon are described: *Enterogyrus crassus* n. sp. from the stomach of *Tilapia nyongana* … The simultaneous occurrence of *E. cichlidarum* Paperna, 1963 in the stomach of these … host species is also reported."

From Fomena et al. (1996):

"*Neonosemoides tilapiae*, previously described from brackish water Cichlidae from Benin and Senegal, was found in *Tilapia nyongana* from the Nyong basin in Cameroon. The morphological and biological characteristics of this parasite indicated its identity with those from Benin and Senegal, despite the difference in host environment (freshwater in Cameroon and coastal brackish lagoons in Benin and Senegal)."

No OIE-notifiable diseases have been reported for this species.

Threat to humans
From Froese and Pauly (2015):

"Harmless"

3 Impacts of Introductions
No introductions of this species have been reported.

4 Global Distribution

Figure 1. Global distribution of *T. nyongana*. Map from GBIF (2015).

5 Distribution within the United States

This species has not been reported in the U.S.

6 Climate Matching

Summary of Climate Matching Analysis

The climate match (Sanders et al. 2014; 16 climate variables; Euclidean Distance) is medium in the vicinity of Miami, Florida, but otherwise low in the contiguous U.S. Climate 6 proportion indicates that the contiguous U.S. has a low climate match overall. The range for a low climate match is 0.000 to 0.005; the climate match of *T. nyongana* is 0.0.

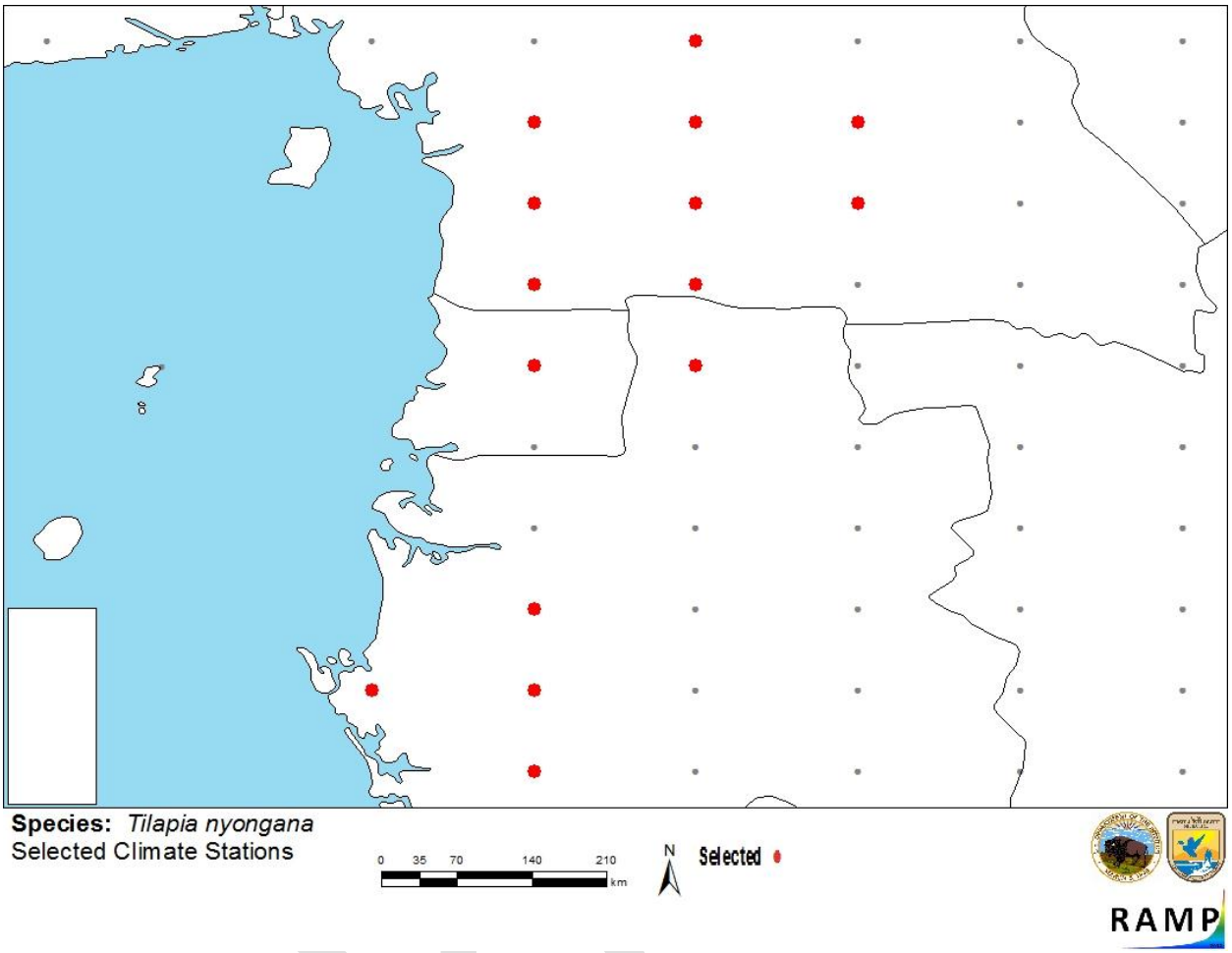

Figure 2. RAMP (Sanders et al. 2014) source map showing weather stations selected as source locations (red) and non-source locations (gray) for *T. nyongana* climate matching. Source locations from GBIF (2015).

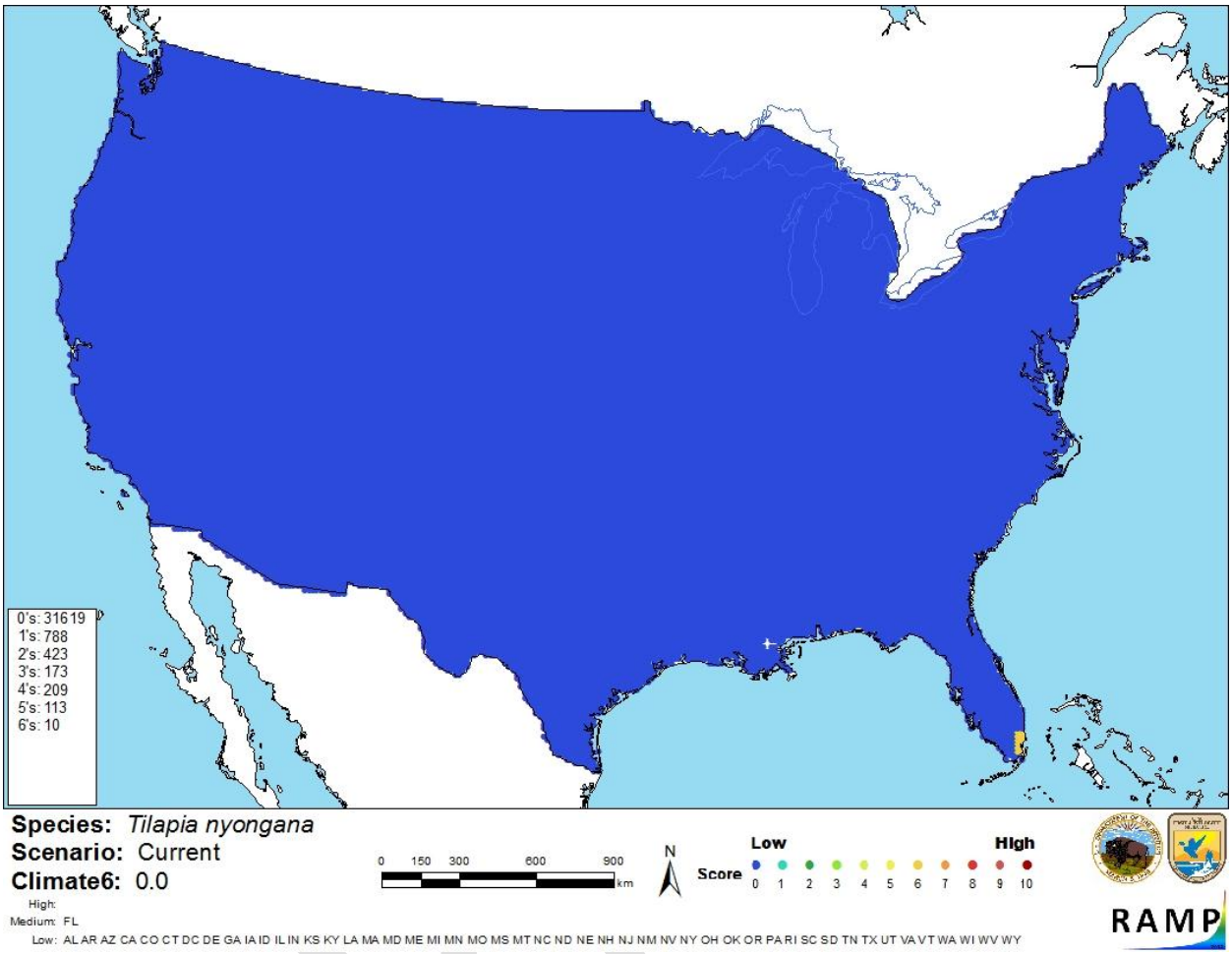

Figure 3. Map of RAMP (Sanders et al. 2014) climate matches for *T. nyongana* in the continental United States based on source locations reported by GBIF (2015). 0= Lowest match, 10=Highest match. Counts of climate match scores are tabulated on the left.

7 Certainty of Assessment

Little information is available on the biology of *T. nyongana* and it has not become established outside its native range. The certainty of this assessment is high because the lack of information about this species precludes any assessment other than "uncertain" risk.

8 Risk Assessment

Summary of Risk to the Continental United States

Tilapia nyongana is a benthopelagic cichlid native to river systems in Cameroon and Gabon. The species has not been reported as introduced outside of this area. Because *T. nyongana* has no history of invasiveness, it is currently impossible to know what impacts *T. nyongana* might have if introduced to the U.S. To date, the species is known to be susceptible to intestinal parasites but not to any OIE-notifiable diseases. Climate match to the contiguous U.S. is low. Overall risk of this species is uncertain.

Assessment Elements

- **History of Invasiveness (Sec. 3):** Uncertain
- **Climate Match (Sec.6):** Low
- **Certainty of Assessment (Sec. 7):** High
- **Overall Risk Assessment Category: Uncertain**

9 References

Note: The following references were accessed for this ERSS. References cited within quoted text but not accessed are included below in Section 10.

Bilong-Bilong, C. F., L. Euzet, and E. Birgi. 1996. Monogean stomach parasites of cichlid fishes from Cameroon: two new species of the genus *Enterogyrus* Paperna, 1963 (Ancyrocephalidae). Systematic Parasitology 34:37-42.

Fomena, A., F. Coste, and G. Bouix. 1996. Occurrence of *Neonosemoides tilapiae* (Sakiti & Bouix, 1987) (Protozoa, Microspora) in a continental freshwater cichlid fish in Cameroon. Journal of African Zoology 110(5):351-355.

Froese, R., and D. Pauly, editors. 2015. *Tilapia nyongana* Thys van den Audenaerde, 1971. FishBase. Available: http://www.fishbase.org/summary/8925. (June 2015).

Global Biodiversity Information Facility (GBIF). 2015. GBIF backbone taxonomy: *Tilapia nyongana* Thys van den Audenaerde, 1971. Global Biodiversity Information Facility, Copenhagen. Available: http://www.gbif.org/species/2370686. (June 2015).

Integrated Taxonomic Information System (ITIS). 2015. *Tilapia nyongana* Thys van den Audenaerde, 1971. Integrated Taxonomic Information System, Reston, Virginia. Available: http://www.itis.gov/servlet/SingleRpt/SingleRpt?search_topic=TSN&search_value=648979. (June 2015).

Moelants, T. 2010. *Tilapia nyongana*. The IUCN Red List of Threatened Species, version 2015.2. Available: http://www.iucnredlist.org/details/181704/0. (June 2015).

Sanders, S., C. Castiglione, and M. Hoff. 2014. Risk Assessment Mapping Program: RAMP. US Fish and Wildlife Service.

10 References Quoted But Not Accessed

Note: The following references are cited within quoted text within this ERSS, but were not accessed for its preparation. They are included here to provide the reader with more information.

Baensch, H. A., and R. Riehl. 1995. Aquarien Atlas, volume 4. Mergus Verlag GmbH, Verlag für Natur-und Heimtierkunde, Melle, Germany.

Stiassny, M. L. J., A. Lamboj, D. De Weirdt, and G. G. Teugels. 2008. Cichlidae. Pages 269-403 *in* M. L. J. Stiassny, G. G. Teugels, and C. D. Hopkins, editors. The fresh and brackish water fishes of Lower Guinea, West-Central Africa, volume 2. Coll. faune et flore tropicales 42. Institut de recherche de développement, Paris, France, Muséum national

d'histoire naturelle, Paris, France and Musée royal de l'Afrique Central, Tervuren, Belgium.

Teugels, G. G., and D. F. E. Thys van den Audenaerde. 1991. Tilapia. Pages 482-508 *in* J. Daget, J.-P. Gosse, G. G. Teugels, and D. F. E. Thys van den Audenaerde, editors. Check-list of the freshwater fishes of Africa (CLOFFA), volume 4. ISNB, Brussels; MRAC, Tervuren, Belgium; and ORSTOM, Paris.